

REMARKS/ARGUMENTS

In response to the Office Action mailed August 20, 2007, Applicants amend their application and request reconsideration. In this Amendment claims 1-10, 12, and 21 are cancelled and new claims 24-26 are added so that claims 11, 13, 14, 17-20, and 22-26 are now pending.

In a simultaneously filed Information Disclosure Statement, Applicants bring to the Examiner's attention two co-pending published U.S. patent applications. Each of those patent applications is commonly assigned with the present patent application and names the same inventors. However, the subject matter disclosed and claimed in present patent application does not appear in the other co-pending applications. Rather, the other pending applications are brought to the Examiner's attention in order to complete the record.

The Examiner requested a more descriptive title and a substitute title is supplied.

After entry of the foregoing Amendment, the only pending independent claim is claim 11. That claim encompasses what is described in the patent application as the Second Embodiment, described from page 21, line 8 through page 31, line 17. This description is supported by and encompasses Figures 3A-5B. Figure 6A and 6B illustrate the same kind of structure but in which two of the sensor units and integrated light emitting and detecting units are employed.

Claim 11, as amended, describes the discrimination sensor according to the Second Embodiment in greater detail. It is made clear that the discrimination sensor includes an integrated light emitting and detecting unit in which the light detector and the light emitter are disposed, for example, embedded, in a transparent body. The transparent body includes at least two lens surfaces respectively focusing the light emitted by the light emitter and incident light that is detected by the light detector.

New claims 24-26 describe further features of the integrated light emitting and detecting unit in which one or two light emitters might be present. These claims are clearly supported by the description in the patent application with respect to Figure 3A and related figures. In view of the amendments of claim 11, claim 12 is cancelled as unnecessary and the other claims are amended for clarity and consistency with amended claim 11. Claim 11 includes part of the description formerly appearing in claim 21, so that that dependent claim is also cancelled.

Claims 11-13 and 20, as examined, were rejected as anticipated by Allen et al. (U.S. Patent 6,497,179, hereinafter Allen). Claims 17-19, 22, and 23 were rejected as obvious over Allen, considered by itself. Claim 14 was rejected as obvious over Allen in view of Numata (Published U.S. Patent Application 2004/0125358). Finally, dependent claim 21 was rejected as obvious over Allen in view of Schwarz (U.S. Patent 5,401,977). These rejections, to the extent applicable in any way to the claims now presented, are respectfully traversed.


It is apparent that claim 11 cannot be anticipated by Allen because Allen fails to describe any kind of integrated light emitting and detecting unit that includes a transparent body in which a light emitter and a light detector are disposed. Examined claim 21 related to such an integrated sensor unit and focusing optical system that included a transparent material. Those features were alleged to be present in Schwarz. However, what is cited as a transparent material, element 31 in Figure 5 of Schwarz, does not have disposed within it a light emitter or a light detector. Rather, the plate 31 of Figure 5 of Schwarz merely provides a mechanical shield. Moreover, that transparent plate 31 does not include any lens surfaces that provide any focusing functions like the transparent body of the integrated light emitting and detecting unit of claim 11.

The rejection of claim 14 as obvious was founded upon the presumption that claim 11 is anticipated by Allen. Since that presumption cannot be maintained, no further response to the rejection of claim 14 is necessary

Since claim 11 is clearly neither anticipated by Allen nor obvious over Allen considered by itself or in view of Schwarz or Numata, all claims now pending are clearly patentable over the prior art cited and applied in the Office Action.

Upon reconsideration, the rejections as to the remaining pending claims should be withdrawn and those claims should be promptly allowed.

Respectfully submitted,



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